

## ABSTRACT

## Network Measurement Method and Apparatus

- 5    The apparatus measures timing variations, such as the jitter or wander in a timing signal (100) of a telecommunications network. A recovered clock signal is sampled and digitised to produce a series of digital clock samples which are then processed (135) with reference to a local digital reference signal to produce digital baseband frequency in-phase (I) and quadrature (Q) components (165, 170) these being further processed  
10   (145) to produce the digital phase information of said clock signal to determine (175) the required parameters of the network. The step of digitally processing said clock samples with reference to a local reference signal can be conveniently and cheaply implemented using a digital signal down-converter IC (135), for example of a type existing for digital radio receiver implementations. For jitter measurement, the local  
15   reference signal may be generated by a phase-locked loop (as in Fig. 2). For wander measurements an external reference clock is used (as in Fig. 3).

(Fig. 1)